

A. AMENDMENTS TO CLAIMS

Please amend the claims as indicated hereinafter.

CLAIMS

What is claimed is:

- 1 1. (Currently Amended) A method of relating data stored in one or more content
2 management systems for an enterprise, the method comprising the steps of:
3 managing a first information object data structure corresponding to a first information
4 object, wherein the first information object is data stored in a file;
5 managing a first concept data structure corresponding to a first concept;
6 managing a second concept data structure corresponding to a second concept;
7 managing a first relationship data structure, wherein the first relationship data
8 structure comprises a first reference to the first concept data structure and a
9 second reference to the second concept data structure;
10 managing a second relationship data structure, wherein the second relationship data
11 structure comprises a third reference to the first concept data structure and a
12 fourth reference to the first information object data structure;
13 receiving a request for a document referring to the second concept; and
14 generating the document referring to the second concept based on a set of
15 information, wherein the set of information comprises the first relationship
16 data structure, the second relationship data structure, the first information
17 object data structure, and the first information object.
18 ~~managing a plurality of information chunks in one or more content management~~
19 ~~systems, each chunk of the plurality of information chunks comprising a unit~~
20 ~~of data for storage and retrieval operations; and~~

21 managing a vocabulary database comprising a plurality of data structures describing
22 atomic concepts among names in an enterprise specific vocabulary and a
23 plurality of data structures describing relationships among the atomic
24 concepts,
25 wherein the plurality of data structures describing atomic concepts include a first
26 information object data structure comprising data indicating a first reference
27 to a first chunk in the one or more content management systems, and
28 wherein the plurality of data structures describing relationships include a first
29 relationship data structure describing a relationship between the first
30 information object data structure and a second concept data structure of the
31 plurality of data structures describing atomic concepts.

- 1 2. (Currently Amended) The method of claim 1, wherein the second concept is different
2 than the first concept information object.
- 1 3. (Currently Amended) The method of claim 1, wherein the first relationship data
2 structure further comprises a reference to describes the relationship involving a third
3 concept data structure of the plurality of data structures describing atomic concepts.
- 1 4. (Currently Amended) The method of claim 1, wherein the relationships include
2 relationships of second relationship data structure corresponds to a child-of
3 relationship type; wherein the first concept and second concept are each one of a set
4 of atomic concepts; a hierarchy is a subset of the set of atomic concepts related by a
5 series of one or more relationships of the child-of relationship type to a root concept
6 of the set of atomic concepts; and the second first concept data structure describes a
7 concept that belongs to a particular hierarchy having a particular root concept.

1 5. (ORIGINAL) The method of claim 4, wherein the particular root concept is one of an
2 information type root concept, a document type root concept, a product type root
3 concept, a technology type root concept, a solution type root concept, and a user type
4 root concept.

1 6. (Currently Amended) The method of claim 5, wherein ~~the first relationship data~~
2 ~~structure describes the relationship involving a third concept data structure of the~~
3 ~~plurality of data structures describing atomic concepts; and the third the second~~
4 ~~concept data structure describes a concept that belongs to a different second hierarchy~~
5 ~~having a different second root concept, wherein the second root concept is different~~
6 ~~from the particular root concept.~~

1 7. (Currently Amended) The method of claim 1, wherein the first information object
2 ~~ehunk~~ is one of a block of text, an application, a query for a database, a vector
3 graphic, an image, audio data, and video data.

1 8. (Currently Amended) The method of claim 1, wherein the ~~first~~ fourth reference
2 comprises one of a file name, a network resource address, a universal resource locator
3 (URL) address, a record identification in a predetermined database, a record
4 identification in a predetermined content management system.

1 9. (Currently Amended) The method of claim 1, wherein the first information object is
2 one of a plurality of information objects; the plurality of information ehunks objects
3 reside in a plurality of content management systems; and said step of managing the
4 plurality of information ehunks objects further comprises employing a data
5 integration tool to retrieve the first ehunk information object from a content
6 management system that resides on a remote platform accessible through a network.

1 10. (Currently Amended) The method of claim 1, further comprising the step of
2 ~~generating and storing a subset of the plurality of the first information chunks object~~
3 into a content cache based at least in part on data in a the second relationship data
4 structure ~~describing a second relationship of the relationships.~~

1 11. (Currently Amended) The method of claim 10, wherein the first concept data
2 structure and the second concept data structure are stored in a vocabulary database;
3 and wherein the method further comprises[[ing]] the step of generating and storing a
4 subset of the vocabulary database into a concept cache based at least in part on data in
5 the second relationship data structure.

1 12. (Currently Amended) The method of claim 11, ~~further comprising the step of~~
2 ~~generating a page for sending over a network to a client process based on data in~~
3 wherein the set of information comprises the concept cache and the content cache.

1 13. (Currently Amended) The method of claim 12, wherein the document page is
2 organized based at least in part on data in a the second relationship data structure in
3 ~~the concept cache.~~

1 14. (Currently Amended) The method of claim 12, wherein the document page displays
2 information based on at least one information chunk object in the content cache.

1 15. (ORIGINAL) The method of claim 11, further comprising the step of editing at least
2 one of the concept cache and the content cache.

1 16. (Currently Amended) The method of claim 10, said further comprising step of
2 generating and storing a the subset of the plurality of information chunks objects, said
3 step of generating and storing the plurality of information objects further comprising

4 combining at least two information chunks objects of the plurality of information
5 chunks objects into a single information chunk object in the content cache.

1 17. (Currently Amended) The method of claim 16, wherein a second information object
2 corresponds to a second information object data structure, and a third relationship
3 data structure comprises references to the second information object data structure
4 and the second concept data structure, wherein the at least two information chunks
5 objects have corresponding information object data structures which are related to
6 corresponding concept data structures; and at least two of the corresponding concept
7 data structures are related by the second relationship.

1 18. (Currently Amended) The method of claim 11, said step of generating and storing
2 [[a]] the subset of the vocabulary database into [[a]] the concept cache further
3 comprising de-normalizing the concept cache to improve speed of retrieval by
4 allowing a concept data structure for a concept that participates in more than one
5 relationship to be stored more than once in the concept cache.

1 19. (Currently Amended) The method of claim 1, said managing the plurality of
2 information chunks comprising further comprising employing a first set of software
3 tools including at least one [[of]] tool[[s]] for defining a type instance for the first
4 information object data structure type and instance and a tool for defining a type and
5 instance for the first relationship data structure type and instance.

1 20. (Currently Amended) The method of claim 1, further comprising the steps of
2 generating and storing a first subset of [[the]] a plurality of information chunks
3 objects into a first content cache for managing content of a Web page.

1 21. (Currently Amended) The method of claim 20, further comprising the step of
2 managing the first subset by employing a second set of software tools including at
3 least one of: a tool[[s]] for editing the first information object data structure, a tool for
4 editing the first relationship data structure, a tool for populating the first content
5 cache, a tool for populating a first concept cache, a tool for retrieving from the first
6 content cache, a tool for combining two or more information chunks objects into a
7 new information chunk object, and a tool for de-normalizing the first concept cache to
8 improve speed of retrieval by allowing a concept data structure for a concept that
9 participates in more than one relationship to be stored more than once in the first
10 concept cache.

1 22. (Currently Amended) The method of claim 20, wherein the first subset of the
2 plurality of information chunks objects excludes information chunks objects that have
3 become obsolete.

1 23. (Currently Amended) The method of claim 20, wherein the first subset of the
2 plurality of information chunks objects excludes information chunks objects that have
3 not been released.

1 24. (ORIGINAL) The method of claim 20, further comprising the steps of generating
2 and storing a second subset of the first content cache into a second content cache for
3 staging content for the Web page.

1 25. (Currently Amended) The method of claim 24, further comprising the step of
2 managing the second subset by employing a third set of software tools including at
3 least one of: a tool[[s]] for editing the first information object data structure, a tool for
4 populating the second content cache, a tool for populating a second concept cache, a
5 tool for ensuring each information chunk object in the second content cache has an

6 information object data structure and a relationship to another concept in the second
7 concept cache, and a tool for forming a search index for the second content cache.

1 26. (ORIGINAL) The method of claim 24, further comprising the step of replicating the
2 second content cache to one or more Web servers for providing content to a Web
3 page generating process on each of the one or more Web servers.

1 27.-31. (Withdrawn)

1 32. (Currently Amended) ~~A method of relating data stored in one or more content~~
2 ~~management systems for an enterprise, the method comprising the steps of:~~
3 ~~managing a plurality of information chunks in one or more content management~~
4 ~~systems, each chunk of the plurality of information chunks comprising a unit~~
5 ~~of data for storage and retrieval operations;~~
6 ~~managing a vocabulary database comprising a plurality of data structures describing~~
7 ~~atomic concepts among names in an enterprise specific vocabulary and a~~
8 ~~plurality of data structures describing relationships among the atomic~~
9 ~~concepts, and~~

10 The method of Claim 1, further comprising the step of:

11 arranging content in [[a]]the document based at least in part on the second
12 relationship data structuredata in the vocabulary database, the content based
13 at least in part on an information chunk of the plurality of information chunks.

1 33. (Withdrawn)

1 34. (Currently Amended) A computer-readable medium carrying one or more sequences
2 of instructions for relating data stored in one or more content management systems

3 for an enterprise, which instructions, when executed by one or more processors, cause
4 the one or more processors to carry out the steps of:

5 ~~managing a plurality of information chunks in one or more content management~~
6 ~~systems, each chunk of the plurality of information chunks comprising a unit~~
7 ~~of data for storage and retrieval operations; and~~

8 ~~managing a vocabulary database comprising a plurality of data structures describing~~
9 ~~atomic concepts among names in an enterprise specific vocabulary and a~~
10 ~~plurality of data structures describing relationships among the atomic~~
11 ~~concepts;~~

12 ~~wherein the plurality of data structures describing atomic concepts include a first~~
13 ~~information object data structure comprising data indicating a first reference~~
14 ~~to a first chunk in the one or more content management systems, and~~

15 ~~wherein the plurality of data structures describing relationships include a first~~
16 ~~relationship data structure describing a relationship between the first~~
17 ~~information object data structure and a second concept data structure of the~~
18 ~~plurality of data structures describing atomic concepts.~~

19 managing a first information object data structure corresponding to a first information
20 object;

21 managing a first concept data structure corresponding to a first concept;

22 managing a second concept data structure corresponding to a second concept;

23 managing a first relationship data structure, wherein the first relationship data
24 structure comprises a first reference to the first concept data structure and a
25 second reference to the second concept data structure;

26 managing a second relationship data structure, wherein the second relationship data
27 structure comprises a third reference to the first concept data structure and a
28 fourth reference to the first information object data structure;

29 receiving a request for a document referring to the second concept; and
30 generating the document referring to the second concept based on a set of
31 information, wherein the set of information comprises the first relationship
32 data structure, the second relationship data structure, the first information
33 object data structure, and the first information object.

1 35. (Withdrawn)

1 36. (Currently Amended) The computer-readable medium of Claim 34, further
2 comprising A computer-readable medium carrying one or more sequences of
3 instructions for relating data stored in one or more content management systems for
4 [[an]] the enterprise, which instructions, when executed by one or more processors,
5 cause the one or more processors to carry out the steps of:
6 ~~managing a plurality of information chunks in one or more content management~~
7 ~~systems, each chunk of the plurality of information chunks comprising a unit~~
8 ~~of data for storage and retrieval operations;~~
9 ~~managing a vocabulary database comprising a plurality of data structures describing~~
10 ~~atomic concepts among names in an enterprise specific vocabulary and a~~
11 ~~plurality of data structures describing relationships among the atomic~~
12 ~~concepts, and~~
13 arranging content in [[a]]the document based at least in part on the second
14 relationship data structure, data in the vocabulary database, the content based
15 at least in part on an information chunk of the plurality of information chunks.

1 37. (Withdrawn)

1 38. (Currently Amended) A system for relating data stored in one or more content
2 management systems for an enterprise, comprising:

3 means for managing a first information object data structure corresponding to a first
4 information object;
5 means for managing a first concept data structure corresponding to a first concept;
6 means for managing a second concept data structure corresponding to a second
7 concept;
8 means for managing a first relationship data structure, wherein the first relationship
9 data structure comprises a first reference to the first concept data structure and
10 a second reference to the second concept data structure;
11 means for managing a second relationship data structure, wherein the second
12 relationship data structure comprises a third reference to the first concept data
13 structure and a fourth reference to the first information object data structure;
14 means for receiving a request for a document referring to the second concept; and
15 means for generating the document referring to the second concept based on a set of
16 information, wherein the set of information comprises the first relationship
17 data structure, the second relationship data structure, the first information
18 object data structure, and the first information object.
19 means for managing a plurality of information chunks in one or more content
20 management systems, each chunk of the plurality of information chunks
21 comprising a unit of data for storage and retrieval operations; and
22 means for managing a vocabulary database comprising a plurality of data structures
23 describing atomic concepts among names in an enterprise specific vocabulary
24 and a plurality of data structures describing relationships among the atomic
25 concepts;
26 wherein the plurality of data structures describing atomic concepts include a first
27 information object data structure comprising data indicating a first reference
28 to a first chunk in the one or more content management systems, and

29 ~~wherein the plurality of data structures describing relationships include a first~~
30 ~~relationship data structure describing a relationship between the first~~
31 ~~information object data structure and a second concept data structure of the~~
32 ~~plurality of data structures describing atomic concepts.~~

1 39. (Withdrawn)

1 40. (Currently Amended) The system of Claim 38, further comprising: ~~A system for~~
2 ~~relating data stored in one or more content management systems for an enterprise,~~
3 ~~comprising:~~
4 ~~means for managing a plurality of information chunks in one or more content~~
5 ~~management systems, each chunk of the plurality of information chunks~~
6 ~~comprising a unit of data for storage and retrieval operations;~~
7 ~~means for managing a vocabulary database comprising a plurality of data structures~~
8 ~~describing atomic concepts among names in an enterprise specific vocabulary~~
9 ~~and a plurality of data structures describing relationships among the atomic~~
10 ~~concepts, and~~
11 means for arranging content in [[a]]~~the~~ document based at least in part on the second
12 relationship data structure, ~~data in the vocabulary database, the content based~~
13 ~~at least in part on an information chunk of the plurality of information chunks.~~

1 41. (Withdrawn)

1 42. (Currently Amended) A computer system for relating data stored in one or more
2 content management systems for an enterprise, the computer system comprising:
3 [[a]]one or more computer-readable mediums for storing a plurality of information
4 ~~chunks in one or more content management systems, each chunk of the~~
5 ~~plurality of information chunks comprising a unit of data for storage and~~

6 retrieval operations, and a vocabulary database comprising a plurality of data
7 structures describing atomic concepts among names in an enterprise specific
8 vocabulary and a plurality of data structures describing relationships among
9 the atomic concepts, wherein the plurality of data structures describing atomic
10 concepts include a first information object data structure comprising data
11 indicating a first reference to a first chunk in the one or more content
12 management systems, and the plurality of data structures describing
13 relationships include a first relationship data structure describing a
14 relationship between the first information object data structure and a second
15 concept data structure of the plurality of data structures describing atomic
16 concepts; and
17 for managing a first information object data structure corresponding to a first
18 information object;
19 for managing a first concept data structure corresponding to a first concept;
20 for managing a second concept data structure corresponding to a second concept;
21 for managing a first relationship data structure, wherein the first relationship data
22 structure comprises a first reference to the first concept data structure and a
23 second reference to the second concept data structure;
24 for managing a second relationship data structure, wherein the second relationship
25 data structure comprises a third reference to the first concept data structure
26 and a fourth reference to the first information object data structure; and
27 one or more processors configured for managing the plurality of information chunks,
28 and managing the vocabulary database.
29 for receiving a request for a document referring to the second concept; and
30 for generating the document referring to the second concept based on a set of
31 information, wherein the set of information comprises the first relationship

32 data structure, the second relationship data structure, the first information
33 object data structure, and the first information object.

1 43. (Withdrawn)

1 44. (Currently Amended) [[A]] The computer system of Claim 42, further comprising:
2 ~~for relating data stored in one or more content management systems for an enterprise;~~
3 ~~the system comprising:~~

4 a computer readable medium for storing a plurality of information chunks in one or
5 more content management systems, each chunk of the plurality of information
6 chunks comprising a unit of data for storage and retrieval operations, and a
7 vocabulary database comprising a plurality of data structures describing
8 atomic concepts among names in an enterprise specific vocabulary and a
9 plurality of data structures describing relationships among the atomic
10 concepts; and

11 one or more processors configured for managing the plurality of information chunks,
12 managing the vocabulary database, and arranging content in [[a]]the document
13 based at least in part on the second relationship data structure. data in the
14 vocabulary database, the content based at least in part on an information
15 chunk of the plurality of information chunks.

1 45. (Withdrawn)

1 46. (Cancelled)

B. REPLACEMENT DRAWINGS

FIG. 4C and 4F were objected to under 37 CFR 1.83(a) as being of insufficient quality to permit examination. Replacement drawings for 4C, 4D, 4E, 4F, 4G, and 4H are attached on separate replacement sheets herewith. Each of the drawings was modified to improve the quality of the drawing or meet formal requirements.